1.0 INTRODUCTION

Western Area Power Administration (Western), a power marketing administration within the United States (U.S.) Department of Energy (DOE), is proposing to rebuild and upgrade the Granby Pumping Plant Switchyard-Windy Gap Substation transmission line in Grand County, Colorado (Grand County). This Environmental Impact Statement (EIS) analyzes the impacts associated with the proposal to remove approximately 13.6 miles of 69-kilovolt (kV) transmission line, construct approximately 12 miles of new 138-kV double-circuit transmission line (operated at 69-kV and 138-kV), and add a second power transformer. Alternatives, including a no action alternative, are also analyzed.

Western is the lead federal agency for preparing the EIS, as defined in 40 Code of Federal Regulations (CFR) 1501.5. The U.S. Forest Service (Forest Service), U.S. Bureau of Land Management (BLM), and Grand County are cooperating agencies. Other project participants include Tri-State Generation and Transmission, Inc. (Tri-State), Mountain Parks Electric, Inc. (MPEI), Northern Colorado Water Conservancy District (NCWCD), and Municipal Subdistrict (MS-NCWCD).

Western's EIS process complies with the Council on Environmental Quality's (CEQ) regulations for implementing the National Environmental Policy Act (NEPA) (40 CFR parts 1500–1508) and DOE NEPA implementing procedures (10 CFR part 1021). Because the proposed project may involve actions in floodplains, the EIS includes a floodplain assessment and floodplain statement of findings following DOE regulations for compliance with floodplain and wetlands environmental review requirements (10 CFR part 1022).

This chapter provides background information on the proposed project, including Western's purpose and need for the project and a description of the analysis area. It also summarizes public involvement activities and describes the key issues, identified through scoping, to be analyzed in the EIS. Finally, it describes the organization of the remainder of the EIS document.

1.1 Project Location

The transmission line is located in Grand County. It originates at Windy Gap Substation, located immediately northwest of the intersection of U.S. Highway 40 and State Highway 125, and runs northeast along U.S. Highway 34 and terminates at the Granby Pumping Plant Switchyard at the end of Grand County Road (CR) 64 on the north shore of Lake Granby (Map 1-1). The Project Area includes tracts of land managed by the BLM Kremmling Field Office and Arapaho and Roosevelt National Forests and Pawnee National Grassland (ARNF), including portions of the Arapaho National Recreation Area (ANRA), as well as Colorado State Land Board (SLB), NCWCD, MS-NCWCD, and private lands (Map 1-1).

1.2 Purpose and Need

The Granby Pumping Plant Switchyard-Windy Gap Substation Transmission Line Rebuild Project is intended to address the electrical deficiencies anticipated due to the eventual failure of the Adams Tunnel cable and the antiquated line configuration in the Project Area. The combination of the eventual failure of the Adams Tunnel cable, increasing residential and commercial load demands in the Project Area, and antiquated structures creates a high-risk scenario, potentially jeopardizing power supply for all electric customers in the service area.

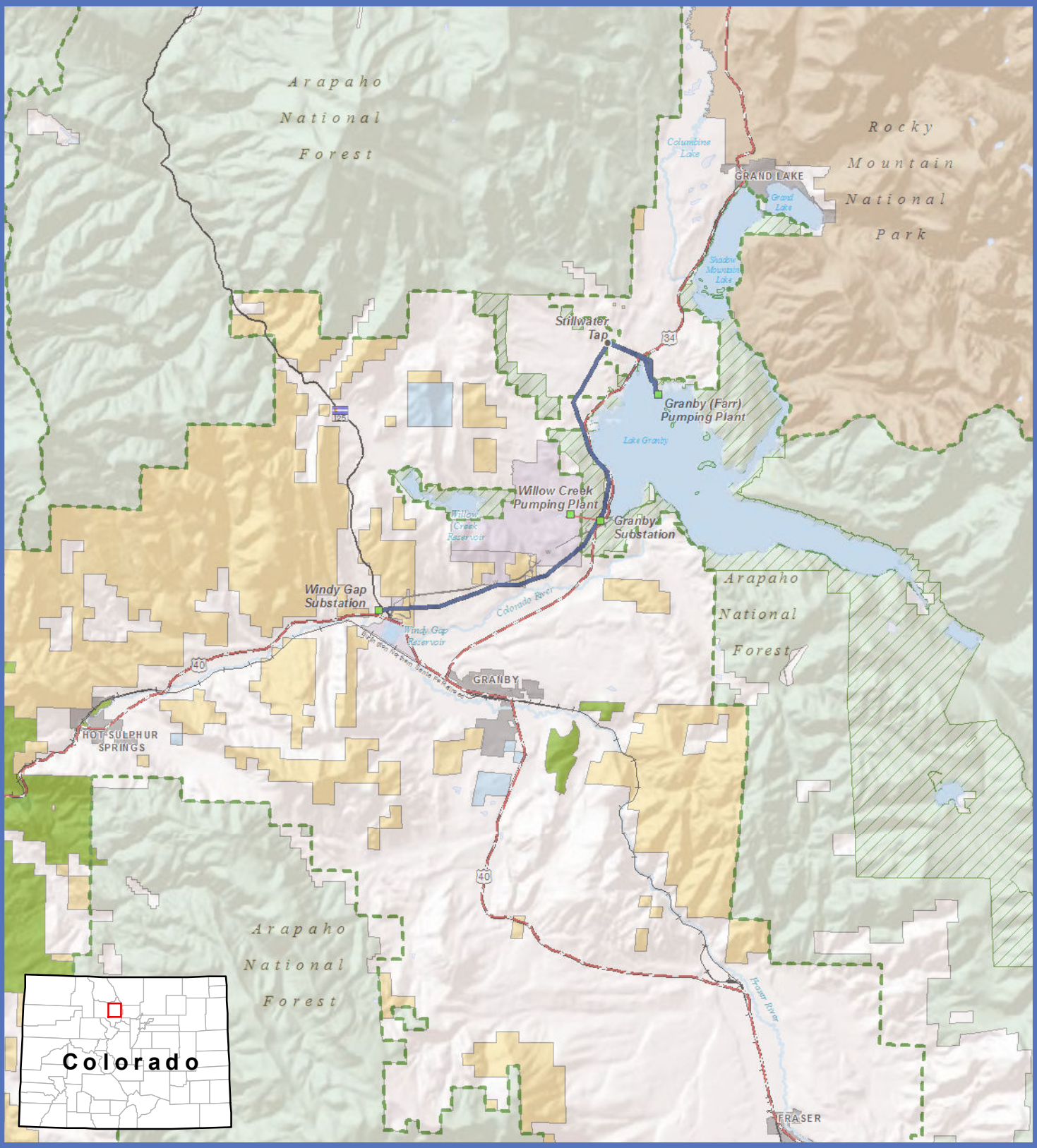
The proposed project is needed to:

- Upgrade voltage to ensure that the electrical system in the area will continue to operate within acceptable voltage criteria while accommodating future load growth in the area.
- Ensure that the electrical system in the area would continue to operate within established electrical criteria during motor starting operations at Farr (Granby) and Willow Creek pumping plants after the eventual failure of the Adams Tunnel power line cable. Engineering studies indicate that once the Adams Tunnel cable is out of service, the voltage drop upon starting the motors at the Willow Creek Pumping Plant would exceed acceptable system limits if load growth in the area continues at the current rate (Western 2003).
- Ensure that Western, Tri-State, and Tri-State's cooperative member (MPEI) are able to serve their customers with reliable service by providing a redundant transmission feed ("looped" transmission service) in the Grand Lake and Granby service areas, in advance of the loss of the Adams Tunnel cable.
- Maintain reliable power supply for existing operations at the Colorado-Big Thompson Project (C-BT) facilities, regardless of future load growth demand in the valley.
- Improve transmission safety by updating antiquated facilities and rebuilding a 70-year-old transmission line to be compliant with current National Electric Safety Code (NESC) standards.
- Minimize long-term transmission line maintenance costs for Western and NCWCD.

1.3 Proposed Project

The proposed project involves rebuilding and upgrading the existing single-circuit line, currently on a 30-foot right-of-way (ROW), as a double-circuit transmission line and adding a second power transformer. The existing 69-kV, H-frame wood pole line would be removed. One circuit would replace the existing 69-kV line; the other circuit would be a new 138-kV line on a 100-foot ROW. The 138-kV double-circuit line would be operated at 69/138-kV. The Granby Pumping Plant Switchyard would be expanded to accommodate the second circuit and power transformer. Windy Gap Substation would also be modified to accommodate the second circuit. This would be a joint participation project between Western, Tri-State, MPEI, and NCWCD.

The Granby Pumping Plant Switchyard-Windy Gap Substation Transmission Line Rebuild Project would minimize impacts by rebuilding and upgrading the existing 69-kV transmission line as a 138-kV double-circuit, looped transmission system on one set of structures in a single ROW. Western acknowledges that looped transmission service on a single set of structures presents an increased risk of system failure compared to two circuits on separate structures and ROWs. However, given existing land use and environmental constraints throughout the Project Area, two sets of structures on separate ROWs are not reasonable or practical. As discussed in Chapter 2.0, the use of single-pole steel structures with concrete bases would help alleviate some of the single-structure and single-ROW vulnerabilities. Additionally, Tri-State's need to provide a second source of power exists regardless of Western's agreement to participate in the project. By combining the new second circuit (138-kV) with Western's existing 69-kV circuit, electric transmission providers in the valley would consolidate existing facilities to meet growing service area needs, while minimizing impacts.



Map 1-1

Legend

Base Data

- Existing Willow Creek Tap (69-kV)
- Windy Gap Water Pipeline (NCWCD)
- Existing 69-kV Transmission Line

Land Status

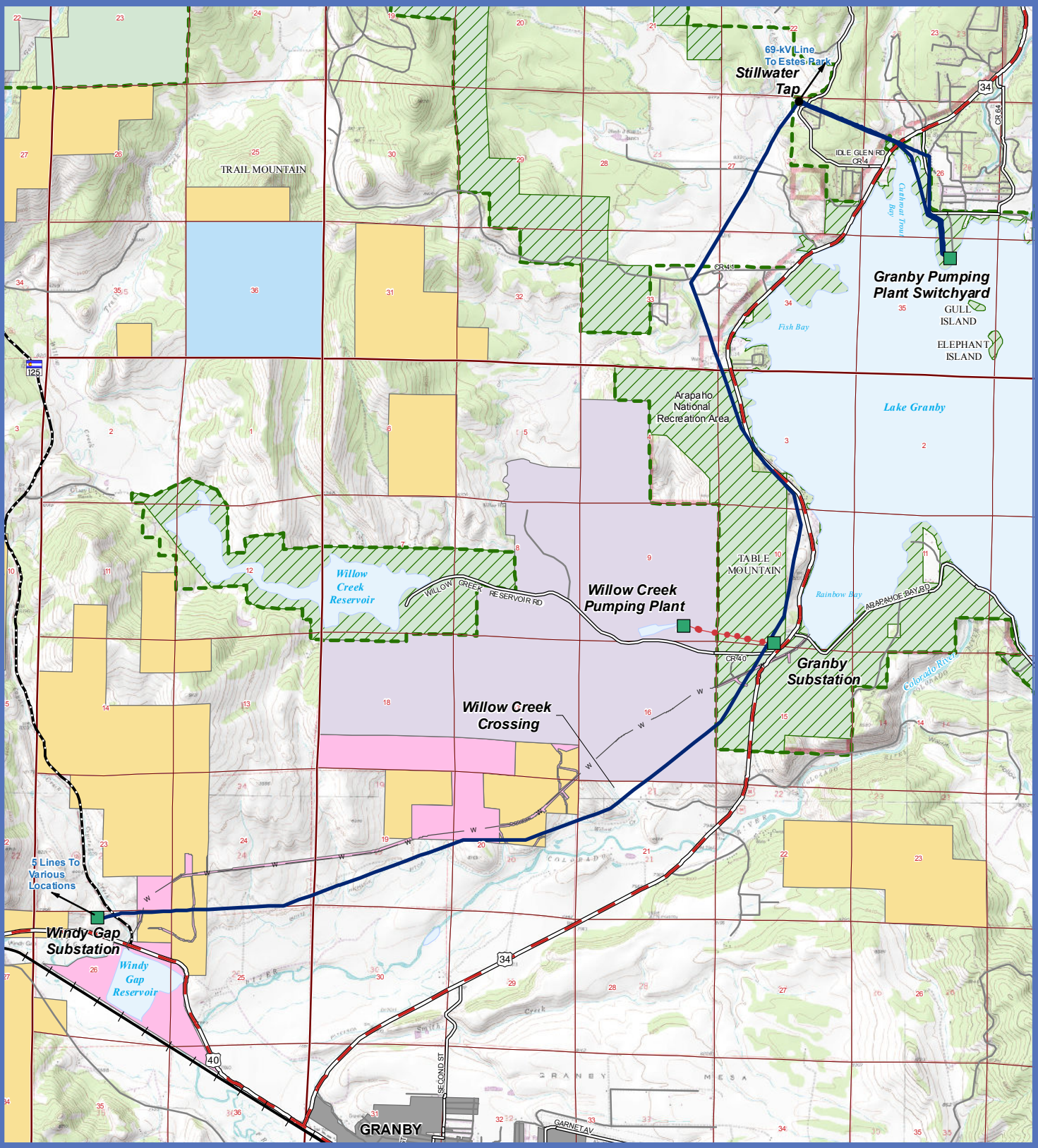
- Northern Colorado Water Conservancy District (NCWCD)
- Forest Service Land within Arapaho National Recreation Area
- Bureau of Land Management (BLM)
- Colorado Divison of Wildlife (CDOW)
- National Park Service (NPS)
- Colorado State Land Board (SLB)
- U.S. Forest Service (USFS)
- Private or Other Land Ownership
- U.S. Forest Service Boundary

Locator Map

November 7, 2011

Source: Bureau of Land Management (BLM), Northern Colorado Water Conservancy District (NCWCD), U.S. Forest Service (USFS), Grand County, and Colorado State University

GRANBY PUMPING PLANT - WINDY GAP TRANSMISSION LINE REBUILD PROJECT



Map 1-2

Legend

Base Data

- Existing Willow Creek Tap (69-kV)
- Windy Gap Water Pipeline (NCWCD)
- Existing 69-kV Transmission Line (Alt. A)

Land Status

- Northern Colorado Water Conservancy District (NCWCD)
- Municipal Subdistrict - Northern Colorado Water Conservancy District (MS-NCWCD)
- Forest Service Land within Arapaho National Recreation Area
- Bureau of Land Management (BLM)
- Colorado State Land Board (SLB)
- U.S. Forest Service (USFS)
- Private or Other Land Ownership
- U.S. Forest Service Boundary

Project Area

November 7, 2011

Western Area Power Administration

AECOM

Source: Bureau of Land Management (BLM), Northern Colorado Water Conservancy District (NCWCD), U.S. Forest Service (USFS), Grand County, and Colorado State University

1.4 Background

1.4.1 Cooperating Agencies and Project Partners

The Granby Pumping Plant Switchyard-Windy Gap Substation Transmission Line Rebuild Project relies on the creation of partnerships to solve systemwide shortages related to power supply and reliability throughout the service area. The project would rely on combining existing system infrastructure, existing ROWs, and maximizing the use of partnership lands to achieve reliable, redundant electrical feeds in the area, despite the eventual failure of the Adams Tunnel cable.

1.4.1.1 Lead Agency

Western Area Power Administration

Western delivers reliable, cost-based hydroelectric power and related services within the central and western United States. Western is one of four power marketing administrations within the DOE, whose role is to market and transmit electricity from multi-use federal water projects. Western markets energy from power plants operated by the U.S. Bureau of Reclamation (Reclamation), U.S. Army Corps of Engineers (USACE), and the International Boundary and Water Commission.

Western's service area covers 1.3 million square miles, and its wholesale power customers provide service to millions of consumers in 15 western states. Western operates and maintains approximately 17,000 miles of transmission lines from its four regional offices. The Project Area is located entirely within Western's Rocky Mountain Region.

Reclamation authorized the single-circuit, wood pole, H-frame transmission line in 1938 and constructed it in 1939 as part of the C-BT Project. Western now owns the existing 69-kV transmission line between Granby Pumping Plant Switchyard and Windy Gap Substation. Western is the lead agency for this project, and has the primary responsibility for conducting the environmental review and preparing the NEPA document.

1.4.1.2 Cooperating Agencies

Forest Service, Arapaho-Roosevelt National Forest

The Forest Service is a federal land management agency that manages the ANRA and surrounding ARNF lands, which would be affected by this proposed project. Because the Forest Service must ensure that actions proposed to occur within the ANRA or surrounding National Forest lands are consistent with its Forest Plan (Forest Service 1997a) and the requirements of NEPA before granting a Special Use Authorization across lands under its management, the Forest Service has accepted Cooperating Agency status with Western in preparing this EIS. The EIS contains certain mitigation measures that the Forest Service would require to be implemented on the portion of the project that is under its jurisdiction. These mitigation measures would be included as specific conditions of the Special Use Authorization issued by the Forest Service should the Forest Service decide to authorize construction and maintenance of this transmission line on the National Forest lands in the Project Area.

Bureau of Land Management, Kremmling Field Office

The BLM Kremmling Field Office is a cooperating agency on this project because of its legal jurisdiction and expertise with respect to permitting and environmental impacts on BLM lands. The existing transmission line and each of the alternatives proposed (Chapter 2.0) would use ROW on BLM land. The BLM has interest in minimizing potential conflicts on Traditional Cultural Properties (TCPs) located on BLM lands in the Project Area.

Grand County, Colorado

Grand County is a cooperating agency on this project because of its interest in potential impacts and outcomes for employment and residential growth, development, and tourism within the county related to the proposed project.

1.4.1.3 Project Partners

Tri-State Generation and Transmission Association

Tri-State is a wholesale electric power supplier owned by the 44 electric cooperatives that it serves. Tri-State generates and transports electricity to its member systems throughout a 250,000 square-mile service territory across Colorado, Nebraska, New Mexico, and Wyoming (TSGT 2008). Tri-State owns the Windy Gap Substation and serves the local electrical cooperative, MPEI.

Tri-State and Western's electrical transmission systems are interconnected at numerous locations, including Windy Gap Substation. Tri-State and Western often plan and construct joint transmission projects for the mutual benefit of both entities.

In 2003, to fulfill long-term transmission needs for MPEI's growing demand, Tri-State proposed to Western a joint project to rebuild and upgrade Western's existing 69-kV transmission line between the Windy Gap and Granby substations, and to install a new power transformer at an enlarged Granby Substation. Tri-state's proposed project would have used Western's existing transmission line to establish a new transmission path instead of building a new transmission line on entirely new ROW. Tri-State proposed a double-circuit 138-kV transmission line to achieve their project needs – one circuit would have replaced Western's existing 69-kV line, the other line circuit would have fulfilled Tri-State/MPEI's needs; both circuits would have been constructed on Western's structures and ROW.

Mountain Parks Electric, Inc.

MPEI is one of 44 not-for-profit electrical distribution cooperatives-owners of Tri-State Generation and Transmission. All residential, commercial, and other electrical users are served by MPEI (with the exception of Reclamation's Farr [Granby] and Willow Creek pumping plants, which are served directly by Western). MPEI's load is fed from both the Granby and McKenzie substations.

MPEI desires to continue serving its existing customers with reliable electric service and also meet all future demands and requests for electricity in its service territory.

Northern Colorado Water Conservancy District

NCWCD was established as the local public agency to contract with Reclamation to share 50/50 in the cost to build the C-BT Project, and to share in the operation and maintenance of certain features of the project.

Reclamation built all C-BT Project facilities, including all water conveyance and storage facilities and the existing 69-kV transmission line (now owned and operated by Western). Reclamation still retains ownership of the pumping and storage facilities in the area; however, Western owns the Granby Pumping Plant Switchyard located at the Farr (Granby) Pumping Plant.

In 1977-78, Reclamation transferred ownership, operations, and maintenance of the 69-kV transmission line to Western. Similarly, NCWCD's prior cost-sharing responsibilities with Reclamation for current multipurpose transmission line operations and maintenance costs were transferred to Western. NCWCD is, therefore, contractually obligated to cost share 50/50 with Western for operations and maintenance, including system improvements and upgrades of the transmission lines between Granby Substation and Granby Pumping Plant Switchyard.

For the purposes of this project, NCWCD's jurisdiction and financial cost-sharing responsibilities apply to the transmission line rebuild between Granby Substation and the Granby Pumping Plant Switchyard.

Reclamation has no decision to make related to the proposal and is not financially affected by the proposed transmission line rebuild, nor would Reclamation operations be dramatically affected by this project, either adversely or beneficially. Reclamation is not a project participant or stakeholder, and is mentioned only for the purposes of providing historical or operational context.

NCWCD has an interest in extending the 138-kV transmission line directly to C–BT Project facilities at Granby Pumping Plant Switchyard to allow operational flexibility for motor starting at Farr (Granby) and Willow Creek pumping plants. The pumps and pump motors at the Farr (Granby) and Willow Creek pumping plants were installed in 1950 and 1951, respectively, in conjunction with the C-BT Project. The pumps and pump motors currently have the same electrical demand as when they were first installed; however, because of growth in electrical loads on the system, motor starting operations are increasingly constrained to remain within the allowed power system operating criteria to which Western must adhere.

Municipal Subdistrict-Northern Colorado Water Conservancy District

MS-NCWCD is a separate entity from NCWCD. MS-NCWCD is funded by a smaller, different group of municipalities than NCWCD. MS-NCWCD is not a financial participant on the proposed transmission line rebuild project.

For the purposes of this project, MS-NCWCD has been identified as a project participant because several of the alternative options proposed (described in Chapter 2.0) would require shared use of the Windy Gap Pipeline ROW owned by MS-NCWCD. The MS-NCWCD Board would need to decide whether to grant shared use of the ROW to Western for the proposed transmission line rebuild.

MS-NCWCD was developed nearly 40 years after the C-BT Project to operate and maintain Windy Gap Project facilities, including the Windy Gap Pipeline. MS-NCWCD owns the pipeline and its ROW between the Windy Gap Substation and Lake Granby (Granby Reservoir). The

proposed project would not have any power related effects on operations, either beneficial or adverse, at the Windy Gap Pumping Plant or on the Windy Gap Project overall. Electrical service to the Windy Gap Pumping Plant is provided by Tri-State, independent of the existing or proposed project transmission line.

1.4.2 Current Electrical System

Western's Granby Pumping Plant Switchyard-Windy Gap Substation 69-kV transmission line has been in operation for approximately 70 years. Reclamation designed and built the line to supply electrical power to the C-BT facilities in the Granby and Grand Lake service area. The electrical substations associated with the transmission line are operated by MPEI, Tri-State, and Western. Residential and commercial load demands on the transmission line came after the C-BT load demands.

The local transmission system has been reliably served by Reclamation's Adams Tunnel 69-kV cable for over 50 years. The Adams Tunnel is a water diversion tunnel, owned by Reclamation and part of the C-BT Project, which is routed under the Continental Divide between the towns of Estes Park and Grand Lake, Colorado. The tunnel carries a 69-kV transmission line in the form of an electric cable owned by Reclamation and operated by Western (installed in 1951).

This cable currently provides the only secondary source of electrical power to the Grand Lake-Granby area by establishing a looped transmission service (explanation provided below) between the Marys Lake and Windy Gap substations. The Adams Tunnel cable has exceeded its predicted useful life (40 years) and, upon failure, would not be replaced (Reclamation 1994), thus, reducing the electrical system in the Grand Lake-Granby area to a radial transmission system.

Substations receiving electricity from more than one source create looped transmission service (two-way feed), which is more reliable than if fed "radially" from a single source (one-way feed). Substations fed by a looped system can remain in service as long as at least one of the lines feeding the substation remains in service, whereas radial, or one-way feed substations, are out of service whenever the single line feeding them is out of service.

The Marys Lake Substation in Estes Park and Windy Gap Substation in Granby are each fed by multiple transmission lines, creating a looped transmission system for the 69-kV line connected between them. This arrangement allows the four substations (Granby Substation, Granby Pumping Plant Switchyard, Willow Creek Pumping Plant Switchyard, and McKenzie Substation) connected along the 69-kV transmission line to be fed from either Windy Gap Substation, Marys Lake Substation, or both (Figure 1-1).

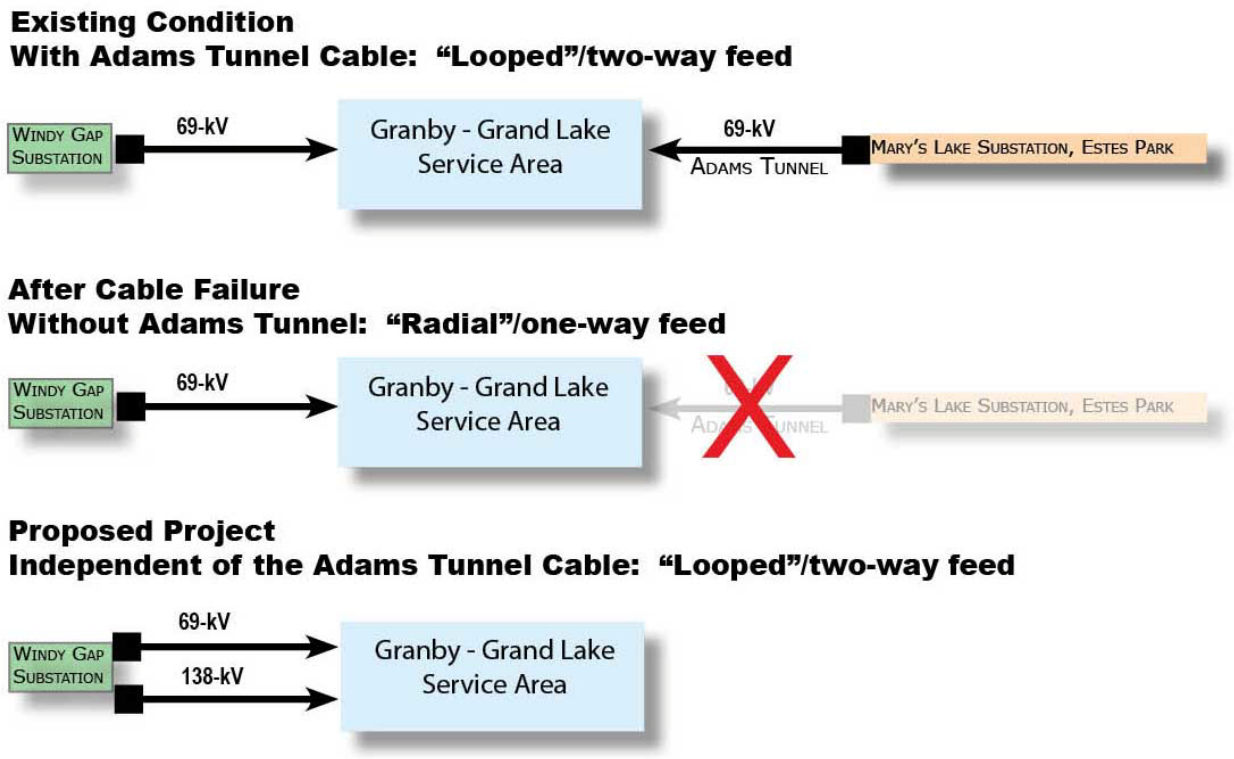


Figure 1-1. Conceptual Diagram of Radial and Looped Electric Feeds

In 1994, Western, Reclamation, the town of Estes Park, Tri-State, Platte River Power Authority, and NCWCD studied costs, engineering requirements, and electrical system constraints for replacing the Adams Tunnel cable in anticipation of its eventual failure. Because of requisite power interruptions, water delivery interruptions, costs, labor constraints, safety concerns, and future maintenance requirements, these entities collectively decided not to replace the cable when it fails (Windy Gap-Estes Park Area Planning Study, Vols. 1 and 2, July 1994).

In 2006, in response to public and agency scoping comments, Western re-evaluated the opportunities and constraints of replacing the Adams Tunnel cable. Because of electrical system constraints, water delivery interruptions, safety concerns, and costs, Western decided to uphold the 1994 decision and not replace the Adams Tunnel cable upon failure (Black & Veatch 2006).

1.4.3 Load Supply / Demand

There are two electrical load demands in the Project Area: residential and commercial electrical demands served by MPEI, and Reclamation's pumping plant electrical demands served directly by Western.

In the late 1990s, MPEI recognized the area's growth potential and increased load requirements, and requested that Tri-State construct additional transmission service to meet the projected future growth of their service area.

Grand County is one of the fastest growing counties in Colorado. Between 1990 and 2003, Grand County experienced approximately an 80 percent increase in population, from 7,966 residents in 1990 to an estimated 14,383 residents in 2007. Similarly, the number of housing units in Grand County increased 53 percent between 1990 and 2003, from 9,985 to 15,282 (CODOLA 2008). Between 1990 and 2007, the towns of Grand Lake and Granby experienced population increases of 81.1 percent and 99.8 percent, respectively. Grand Lake grew from 259 residents in 1990 to 469 residents in 2007, while Granby grew from 966 residents in 1990 to 1,930 residents in 2007. Population growth projections indicate that, overall, Grand County will almost double in population between the years 2007 and 2035 (CODOLA 2008). Electrical load demand is expected to increase, commensurate with county population growth projections. The current 69-kV Granby Pumping Plant Switchyard-Windy Gap Substation transmission line will begin experiencing operational constraints if the load growth rate seen since 1990 continues.

There are no plans to increase the electrical power demand for Reclamation's facilities as a result of the proposed project. Instead, a benefit of the project is the upgraded system voltage, which improves reliability and increases operational flexibility during pump motor starting at the pumping plants.

1.4.4 System Reliability

To ensure electrical service reliability, Western and Tri-State intend to maintain a second source of power to serve Reclamation and MPEI loads after the loss of the Adams Tunnel 69-kV cable. Due to topographic constraints and distances, there are no other secondary feed options originating from outside the Granby-Grand Lake service area. Additionally, there is no power generation in Grand County. All power comes from the following sources:

- Hydroelectric generation at Green Mountain Reservoir or the interconnected transmission system through the Gore Pass Substation to the west; or
- Hydroelectric generation at Marys Lake and Estes Park or the interconnected transmission system through the Marys Lake Substation to the east through the Adams Tunnel.

In 2003, Western and Tri-State performed system studies to determine system needs for maintaining a looped transmission system in the Granby-Grand Lake area and meet current and future loading requirements. The studies demonstrated that long-term electrical system reliability is achieved when a new 138-kV transmission line is added in the Granby-Grand Lake area (Western 2003).

Originally, Tri-State proposed to rebuild and upgrade Western's 69-kV line between the Windy Gap and Granby substations as a double-circuit 138-kV line to replace Western's existing line, and add a second transformer at an expanded Granby Substation. The proposal would have created a second transmission path utilizing Western's existing ROW and fulfilled MPEI's growing power demands.

Western determined that Tri-State's proposed transmission line rebuild would provide tangible benefits to Western's customers and enhance the federal transmission system. Western also determined that the need to rebuild all of the 1939 vintage 69-kV transmission line was imminent and could be best accomplished by one overall project. Tri-State's proposed project was therefore modified by extending the double-circuit line and by adding a second power transformer at the Granby Pumping Plant Switchyard. The expanded project would benefit both Western's

customers (MPEI and Reclamation) and result in improved reliability, power supply, and safety by replacing antiquated facilities throughout the entire local system.

The proposed 138-kV double-circuit transmission line project is intended to address all load demand issues on the system with one solution, including ensuring adequate supply for increasing local area load demands as well as ensuring reliable supply for Reclamation's pumping plants. Further, Western and Tri-State desire to accomplish the project while the Adams Tunnel 69-kV cable is still available as a secondary source. Without the Adams Tunnel 69-kV cable, the rebuild of the Granby Pumping Plant Switchyard-Windy Gap Substation transmission line can only be accomplished by building on new ROW adjacent to the existing line before the existing line can be removed. This increases the ROW needs and, subsequently, the potential impacts of the project.

The eventual failure of the Adams Tunnel cable will leave large parts of Western and Tri-State's Granby-Grand Lake service area with only a one-way or radial transmission supply. The portion of the system affected by this transmission system includes approximately 7,000 customers in the area, extending from the west side of Rocky Mountain National Park (RMNP) on the north to the YMCA Snow Mountain Ranch on the south, and from Byers Canyon on the west to the ANRA and Continental Divide on the east. The towns of Hot Sulphur Springs, Granby, and Grand Lake, as well as hundreds of customers in rural areas, particularly along the U.S. Highway 34 corridor, are included in the service area. Without a rebuild and upgrade of existing facilities, Tri-State/MPEI and Western customers risk extended power outages, especially during adverse winter weather and prolonged line maintenance due to the lack of an alternate transmission circuit to supply the area.

1.4.5 Acceptable Voltage Criteria

One of the system needs that led to the recommendation of a 138-kV line in the Granby-Grand Lake area is meeting acceptable voltage criteria for the operation of the transmission system. Both Western and Tri-State adhere to Rural Electric Association Bulletin 160-3 voltage flicker standard, which allows voltage dips of up to 6 percent of the nominal voltage. Voltage dips, or sags, are short-term system conditions. Typically, transmission lines operate within 5 percent of their nominal voltage (e.g., a 138-kV line is usually operated between 131.1-kV and 144.9-kV). Voltage sags greater than 6 percent, or voltage sags occurring more than one or two times per 24-hour period, exceed the acceptable criteria range. Large motor starting operations, such as Reclamation's pump motors, draw a large starting current (measured in amperes [amps]), often in multiples of the running current (e.g., operating/running current may be 500 amps, whereas starting current may exceed 2,500 amps), which can cause voltage sags.

As system loading increases and should the existing 69-kV system become a radial system with the loss of the Adams Tunnel 69-kV cable, system studies show the 69-kV system may not be able to sufficiently support the loads without exceeding the acceptable voltage operating criteria. A 138-kV system provides a stronger voltage source, which would not violate the voltage flicker standard.

Farr (Granby) Pumping Plant currently uses reduced voltage starting protocols to minimize system impact (voltage sags) during motor starting. Willow Creek Pumping Plant does not have the capability to use reduced voltage starting methods. Willow Creek Pumping Plant, with full voltage motor starting, impacts the power system much more than Farr (Granby) Pumping Plant does with its reduced voltage motor starting. If future electrical load demands were not forecasted to increase in the service area, NCWCD could continue low-voltage motor starting

operations after the failure of the Adams Tunnel cable without exceeding the 6 percent sag criteria. However, as previously stated, load demands are forecasted to increase and the 6 percent sag criteria would be exceeded with increasing frequency. Upgraded voltage support would not increase power demand at the pumping plants, but would instead enhance operational flexibility for motor starting activities, both on a daily and seasonal basis.

1.5 Decision to Prepare an EIS

In 2005, Western began preparation of an Environmental Assessment (EA) for the proposed Granby Pumping Plant Switchyard-Windy Gap Substation transmission line rebuild. Two public meetings were held in July 2005 and November 2006 to inform the public of the project, the environmental analysis process, and to invite public comment. The results of EA scoping and public meeting summaries are included in Appendix A. Based on a review of public comments and the public's concerns regarding potential significant impacts, Western determined that an EIS would be appropriate for this project.

A Notice of Intent (NOI) to prepare an EIS was published in the *Federal Register* on August 10, 2007 (Appendix A).

This EIS has been prepared consistent with the procedural provisions of NEPA and CEQ regulations.

1.6 Public Involvement

Scoping for the EA was initiated with notification in local newspapers and a mailing to over 250 landowners within 500 feet of the proposed transmission line alternatives, government officials, and persons known to be interested in similar projects or who had asked to be informed of such projects. Flyers were also distributed to notify the public.

The first public scoping meeting was held Thursday, July 28, 2005, at the Grand Lake Fire Protection District, and was attended by 35 people. The meeting format, with exhibits and opportunities to make written and oral comments, was intended to promote informal interaction between interested members of the public and Western. Attendees were asked to visit four information stations to learn about the project background, existing conditions, preliminary issues and preliminary alternatives, and to provide their input to Western, Forest Service representatives, and the consulting team. Attendees provided their input directly on the presentation boards, comment sheets, and to project team representatives. Based on public input, the preliminary alternatives were reevaluated, including minor adjustments to the alignments, and additional resource surveys were scheduled.

A second public meeting was held Wednesday, November 15, 2006, at the MPEI Community Room in Granby, and was attended by approximately 45 people. More than 250 newsletters announcing the second public meeting were mailed to landowners and interested persons approximately 1 month in advance. The attendees were asked to visit various information stations to learn about project updates since the July 2005 meeting; give feedback on alternatives (including alternatives considered but eliminated) and preliminary findings of the affected resource analyses; and to review requested survey results. Attendees provided their input directly on the presentation boards, comment sheets, and to project team representatives.

Once a decision was made to prepare an EIS, an NOI was published. The NOI invited public participation in the EIS scoping process and solicited public comments on the scope and content

of the EIS. Formal public scoping for the EIS was initiated with the publication of the NOI and ended on September 17, 2007. One public scoping meeting was held on August 30, 2007. The EIS scoping summary report is included in Appendix A.

Approximately 30 local residents attended the August 30, 2007, scoping meeting in Granby. The attendees were asked to visit various information stations to learn about the project updates since the November 2006 meeting, including the decision to prepare an EIS and alternatives considered but eliminated, and to provide their input to Western and the consulting team on issues and concerns. Attendees provided their input directly on the presentation boards, comment sheets, and to project team representatives.

Approximately 200 comment letters were received during the scoping period. All letters were reviewed by the project team to help define the scope of analysis for the EIS and to inform the refinement of project alternatives.

1.7 Issue Identification

Issues are defined as concerns about the potential effects of the proposed project. The range of issues was determined through agency, stakeholder, and public scoping, as well as from project Interdisciplinary Team collaboration. Each potential issue was evaluated to determine its relevance to the decision, or whether the issue could be eliminated from further study because of minimal or no known or anticipated effects. If the issue was determined to be a substantial concern, Western evaluated whether it should be considered during the alternative development process. Ultimately, all issues identified were classified as either "Selected for Detailed Analysis" or "Dismissed from Detailed Analysis."

Issues Selected for Detailed Analysis are addressed in the Affected Environment and Environmental Consequences chapters (Chapters 3.0, 4.0, and 5.0). Issues Dismissed from Detailed Analysis will not be addressed further in this EIS.

1.8 Issues Selected for Detailed Analysis

The following issues were identified by the public, cooperating agencies, and the Interdisciplinary Team as being particularly important to the development of alternatives and the assessment of potential impacts. These issues establish a framework for the analysis in Chapters 3.0-5.0 of this EIS. They were selected for detailed analysis because 1) they are potential factors in deciding which alternative will be selected for implementation; 2) they are topics of public interest; or 3) a law, regulation, or policy requires their analysis. Issues that ultimately framed or affected the development of alternatives are considered to be “Key Issues.” Key Issues are indicated in **bold** text.

- **Potential effects to visual resources and rural aesthetics**
- **Potential effects to sage grouse populations and habitats**
- Project costs
- Potential effects to land uses, including agricultural practices and conservation easements
- Restoration efforts proposed for the abandoned ROW
- Human health effects
- Interference with radio and cellular communications

- Electromagnetic field effects
- Effects on riparian, wetlands, or other aquatic habitats as a result of construction
- Construction effects on winter range habitat for mule deer and elk
- Bird collisions with conductors and structures, including migratory species and raptor species
- Effects on special status or sensitive species and habitat as a result of construction activities and presence of above-ground structures
- Alternatives to above-ground structures, including undergrounding, reusing the Adams Tunnel cable, or laying the transmission line on the bed of Lake Granby
- Socioeconomic impacts in Grand County
- Cumulative effects of mountain pine beetle epidemic
- Cumulative impacts to wildlife habitats from various types of development in the Project Area
- Effects to cultural and historic resources, including TCPs
- Effects to special designation areas, such as the ANRA or scenic byway
- Consistency with local and Grand County Zoning Regulations and management overlays

1.9 Issues Dismissed from Detailed Analysis

The following issues, identified during public and agency scoping, are not carried forward into the analysis for the reasons described below:

- Front Range water use – The purpose of the project is to maintain and improve electrical power reliability for this portion of Grand County. It would not affect nor be affected by existing or proposed water collection and delivery projects that serve the Front Range. The pumping plants that are part of the water collection and delivery systems would continue to operate, relative to electrical power demand, as they always have. Strengthening the power grid in this area would minimize or eliminate impacts to all current electrical power users caused by increased growth in this area of Grand County and the potential failure of the Adams Tunnel power cable.
- Per capita energy consumption – The purpose of the project is to maintain and improve electrical power reliability for this portion of Grand County. Neither restrictions on nor modifications to per capita energy consumption would affect system reliability. As such, per capita energy consumption is irrelevant to this analysis.
- Energy conservation measures – The purpose of the project is to maintain and improve electrical power reliability for this portion of Grand County. Implementation of new or stricter energy conservation measures would ultimately have no bearing on the electrical system reliability. As such, changes to energy conservation measures are irrelevant to this analysis.

1.10 Areas of Controversy

Correspondence between Western and the Grand County Department of Planning and Zoning has identified several areas of non-concurrence regarding permit requirements, consistency with land use plans and policies, and the scope of the EIS impact analysis. Specific areas of non-concurrence between Western and Grand County include:

- The degree to which the project has achieved substantive compliance with Grand County permit requirements and land use policies
- Viability of alternatives that would rebuild and upgrade the Adams Tunnel cable, or construct the transmission line as an underwater power cable below Lake Granby
- Whether to include within the scope of the EIS an analysis of effects of the proposed project on the operations and pumping capacity of the CB-T project, and other West Slope water diversion projects (i.e., the Windy Gap Firming Project
- Whether to include within the scope of the EIS an analysis of cumulative effects to aquatic and scenic resources resulting from reservoir water level fluctuations and water development projects
- Whether to include within the scope of the EIS an analysis of effects of the proposed project on continued hydroelectric power generation for pumping plant power

Correspondence between Western and Grand County is provided in Appendix B.

1.11 Decisions Framework

Western is the lead agency and prepared the EIS. The EIS was prepared in accordance with DOE, Western, and Forest Service procedures and guidelines requisite to NEPA compliance. Western selected a NEPA contractor to support environmental review for the proposed project. The results of the analysis are presented in this EIS and will form the basis for decisions regarding the project.

Following the draft EIS review and comment period, Western will consider comments submitted by the public, interested organizations, and government agencies, and will respond to all substantive comments. Western will select a preferred alternative and will prepare a Record of Decision (ROD) and final EIS.

Each cooperating agency will prepare their own decision documents in accordance with their respective policies and guidelines.

As an affected federal land management agency, the Forest Service is required to comply with all laws (National Forest Management Act [NFMA], NEPA, Section 7 of the Endangered Species Act [ESA], National Historic Preservation Act [NHPA], etc.), regulations, and policies for the portion of the project on lands under its jurisdiction. The Forest Service is meeting these responsibilities by participating as a Cooperating Agency in the preparation of this EIS and by making a decision whether to issue an authorization to Western for construction and maintenance of this proposed transmission line.

1.12 Statutes, Regulations, and Permitting

The rebuild and upgrade of the Granby Pumping Plant Switchyard-Windy Gap Substation transmission line would occur entirely within Grand County. The project would comply with applicable requirements, including the statutes, regulations, and permit requirements listed below.

1.12.1.1 Statutes

- Antiquities Act of 1906 (Public Law [P.L.] 59-209; 34 Stat. 225; 16 United States Code [U.S.C.] 432, 433)
- Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-712; Chapter 128; July 13, 1918; 40 Stat. 755), as amended
- Historic Sites Act of 1935 (P.L. 74-292; 49 Stat. 666; 16 U.S.C. 461)
- Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668-668d, 54 Stat. 250), as amended
- Archeological and Historic Preservation Act of 1960 (P.L. 86-523, 16 U.S.C. 469-469c-2), as amended
- NHPA of 1966 (P.L. 89-665; 16 U.S.C. 470 et seq.)
- NEPA of 1969 (42 U.S.C. 4321 et seq.)
- Clean Air Act (CAA) of 1970 (42 U.S.C. 7401 et seq.), as amended
- Federal Water Pollution Control Act (Clean Water Act [CWA]) of 1972 (33 U.S.C. §1251 et seq.), as amended
- ESA of 1973 (16 U.S.C. 1531-1544, 87 Stat. 884), as amended
- The Federal Noxious Weed Act of 1974, as amended (7 U.S.C. 2814)
- NFMA of 1976: Forest Service, 1997 Revision of the Land and Resource Management Plan for the Arapaho and Roosevelt National Forests and Pawnee National Grassland
- Archaeological Resources Protection Act of 1979 (P.L. 96-95; 16 U.S.C. 470aa-mm), as amended
- Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. 3001)
- Senate Document No. 80, 75th Congress 1st Session, authorizing the C-BT Project
- Water Conservancy Act, Article 45 Colorado Revised Statutes, which enabled the establishment of the NCWCD
- Repayment Contract and all Supplements, a contract made on July 5, 1938 between the Reclamation and NCWCD, a Corporation of the State of Colorado, providing for the constructions of the C-BT Project
- C-BT Project, Letter of Understanding in reference to Contract No. 9-07-70-W0020 (Formerly Ilr-1051), as amended by Supplement No. 2, dated May 1, 1996, between DOE, Western, and NCWCD
- C-BT Project, Letter of Understanding in reference to Contract No. 9-07-70-W0020 (Formerly Ilr-1051), as amended by Supplement No. 2, dated March 26, 1980, between

DOE, Western, and Water and Power Resources Services (Reclamation), Department of the Interior

1.12.1.2 Regulations

- CEQ Regulations for Implementing the Procedural Provisions of the NEPA (40 CFR § 1500-1508)
- U.S. DOE NEPA Implementing Procedures (10 CFR § 1021)
- U.S. DOE Compliance with Floodplain/Wetlands Environmental Review Requirements (10 CFR § 1022)
- Interagency Cooperation, ESA of 1973, as amended (50 CFR Part 402)
- Protection of Historic Properties (36 CFR Part 800)
- General [CAA] Conformity Regulations (40 CFR Part 93, Subpart B)
- National Pollutant Discharge Elimination System (NPDES) permitting requirements
- Institute of Electrical and Electronics Engineers (IEEE), NESC
- Guidance Regarding Consideration of Global Climatic Change in Environmental Documents Prepared Pursuant to the NEPA, CEQ, 1997

1.12.1.3 Executive Orders

- Executive Order (E.O.) 11988, Floodplain Management, May 24, 1977
- E.O.11990, Protection of Wetlands, May 24, 1977
- E.O.12875, Enhancing the Intergovernmental Partnership, October 26, 1983
- E.O.12898, Environmental Justice: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 11, 1994
- E.O.13084, Consultation and Coordination with Indian Tribal Governments, May 14, 1998
- E.O.13112, Invasive Species, February 3, 1999
- E.O.13186, Responsibilities of Federal Agencies to Protect Migratory Birds, January 10, 2001

1.12.1.4 DOE Orders

- DOE O 450.1B, NEPA Compliance Program
- Office of NEPA Policy and Compliance Interim Guidance on *Need to Consider Intentional Destructive Acts in NEPA Documents*, December 1, 2006

1.12.1.5 Permits

- Forest Service, ROD; Construction, Operation and Maintenance Plan; Special Use Permit
- BLM, ROD; Plan of Development; Amended Grant Reservation
- NPDES Stormwater Program Permits

1.12.1.6 State and Local Requirements

As a federal agency, Western is not required to comply with state or local land use regulations. Nevertheless, Western would comply with substantive requirements of state and local requirements whenever practicable.

1.13 Document Organization

The contents of each chapter of the EIS are as follows:

- Chapter 1.0 provides background information on the proposed project, describes the analysis area, states the purpose and need for the project, and summarizes scoping activities.
- Chapter 2.0 describes all alternatives considered in the EIS. It describes common features of transmission line design, construction, operation, and maintenance; includes a summary comparison of the environmental effects of the alternatives; and discusses measures to prevent or mitigate potential effects.
- Chapter 3.0 describes the affected environment and other resources that the proposed action and alternatives could affect. Resources discussed include air quality, climate, and global climate change; soils; paleontological resources; cultural resources; electric and magnetic fields; land use (including transportation); visual resources; socioeconomics and environmental justice; recreation and wilderness; aquatic resources; vegetation resources; special status plant species; wetland resources; terrestrial and avian wildlife resources; and special status terrestrial, avian, and aquatic wildlife species.
- Chapter 4.0 describes the potential environmental effects of the proposed action and alternatives. The chapter identifies the direct and indirect, short-term and long-term, and beneficial and adverse effects to each potentially affected resource identified in Chapter 3.0, as well as unavoidable adverse effects. A discussion on the short-term use of the environment and long-term productivity and irreversible and irretrievable commitments of resources as a result of the proposed action or alternatives is included at the end of the chapter.
- Chapter 5.0 identifies the potential cumulative effects of the alternatives to each of the potentially affected resources in Chapter 3.0. Cumulative impact is the impact on the environment that results from the incremental impact of the proposal when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes the other actions.
- Chapter 6.0 provides a list of permits and approvals that may be required prior to implementation of the proposed action or alternatives.
- Chapter 7.0 provides a list of persons who helped to prepare this EIS, including their role on the project and years of experience in that capacity.